

What Works Clearinghouse



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WWC Quick Review of the Report “Achievement Effects of Four Elementary School Math Curricula: Findings from First Graders in 39 Schools”^{†*}

What is this study about?

This study examined the relative effectiveness of four widely-used early elementary school math curricula: (1) *Investigations in Number, Data and Space (Investigations)*, (2) *Math Expressions (ME)*, (3) *Saxon Math (Saxon)*, and (4) *Scott Foresman-Addison Wesley Mathematics (SFAW)*.

The study included about 1,300 first graders from 39 schools in four school districts in Connecticut, Minnesota, New York, and Nevada.

Participating schools were randomly assigned to use one of the four curricula. At least one school in each district was assigned to each of the four math programs. A random sample of approximately 10 students per classroom was included in the analysis.

The study measured the relative effectiveness of the four curricula by comparing end-of-year test scores on a nationally normed math assessment developed for the Early Childhood Longitudinal Study—Kindergarten Class (ECLS-K).

WWC Rating

The research described in this report is consistent with WWC evidence standards

Strengths: This is a well-implemented randomized controlled trial.

Features of the Four Elementary School Math Curricula Examined

Investigations: student-centered approach focusing on student understanding

ME: blends student-centered and teacher-directed approaches; emphasis on learning through real-world examples

Saxon: teacher-directed approach relying on scripted lessons and daily student practice

SFAW: uses manipulatives and combines teacher-directed instruction with differentiated student activities

What did the study authors report?

First graders attending schools assigned to the *ME* and *Saxon* curricula scored significantly higher on math assessments than students attending schools assigned to the *Investigations* or *SFAW* curricula. Math achievement did not differ significantly between schools using *ME* and *Saxon*; nor were there significant differences in student math achievement between schools using *Investigations* and *SFAW*.

The authors report that math achievement of *ME* and *Saxon* students was 0.30 standard deviations higher than *Investigations* students, equivalent to moving a student from the 50th to 62nd percentile. Math achievement of *ME* and *Saxon* students was 0.24 standard deviations higher than *SFAW* students, equivalent to moving a student from the 50th to the 59th percentile.

[†]Agodini, R., Harris, B., Atkins-Burnett, S., Heavside, S., Novak, T., & Murphy, R. (2009). *Achievement effects of four elementary school math curricula: Findings from first graders in 39 schools* (NCEE 2009-4052). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

*Absence of conflict of interest: This study was prepared by Mathematica Policy Research, which also operates the WWC. For this reason, the study was reviewed by staff from RAND Corporation, ICF International, and Concentric Research & Evaluation.

WWC quick reviews are based on the evidence published in the report cited and rely on effect sizes and significance levels as reported by study authors. WWC does not confirm study authors' findings or contact authors for additional information about the study.

The WWC rating refers only to the results summarized above and not necessarily to all results presented in the study.